UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,773	01/14/2004	Alan G. Bishop	MS1-1807US	8136

22801 7590 02/27/2007		EXAMINER
LEE & HAYES PLLC		JANAKIRAMAN, NITHYA
421 W RIVERSIDE AVENUE SUITE 500	ART UNIT	PAPER NUMBER
SPOKANE, WA 99201	2123	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	02/27/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 02/27/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

lhptoms@leehayes.com

	Application No.	Applicant(s)
	10/759,773	BISHOP ET AL.
Office Action Summary	Examiner	Art Unit	
	Nithya Janakiraman	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>30 November 2006</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-8 and 10-36</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-8 and 10-36</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>14 January 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

U.S. Patent and Trademark Office

PTOL-326 (Rev. 08-06)   Office Action Summary   Part of Paper. No./Mail Date 20070205

DETAILED ACTION

The amendment filed on 11/30/2006 has been received and considered. Claims 1-8 and

10-36 are presented for examination.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

1.   Claims 1-5 are rejected by 35 U.S.C. 101 as they are directed towards non-

statutory subject matter.

2.   Regarding independent claim 1, a method emulating an operation, and

permitting access to memory are not sufficient to be statutory subject matter. As there

is no output, there is no useful, tangible, or concrete result. All depending claims are

rejected as well.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-8 and 10-36 are rejected under 35 U.S.C. 103(a) as being unpatentable

over US Patent 5,073,968, Morrison (hereinafter Morrison), in view of US Patent

6,510,083, See et al. (hereinafter See).

4.   Morrison teaches the execution of a device using emulated memory (see column

1, lines 6-12), but does not disclose removal of an identifier (claims 3 and 29), the use of

table entries with a software program (claim 30), or means for inserting and copying a

generation count (claim 35).

5.   See teaches these elements in the way of a pointer field of parameter entries that

store the parameter values to ensure that the latest version of the parameter stored can

be accessed through the next pointer link (see column 9, lines 20-30).

6.   Morrison and See are analogous art because they are both related to the field of

memory emulation

7.   Therefore, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to combine the See device with the Morrison device,

motivated by the desire to more easily signal the occurrence of the incorrect memory

access to memory, thereby increasing the probability of having an easily reproducible

test case (see See, lines 65-67).

8.   Regarding claim 1, Morrison and See teach:

A method comprising:

emulating an operation of a client (see Morrison figure 3); and

permitting the emulated operation to access a contiguous portion of emulated memory

only when a pointer used by the emulated operation and a table entry used to manage

the emulated memory both contain the same identifier, wherein an address to the

contiguous portion is contained in both the pointer and the table.entry (see Morrison

figure 6, "check for legal address ranges"; column 2, lines 35-41; column 6, lines 38-40)

and

wherein the identifier is removed from the corresponding pointer to permit the access

to the contiguous portion of emulated memory (see See column 9, lines 20-30).

9.   Regarding claim 2 (26, 27, and 33), Morrison teaches:

The method as defined in Claim 1, wherein:

the table entry is in a table that contains a plurality of said table entries (see figure 4,

"address selection");

each said table entry references an address of one said contiguous portion of the

emulated memory(see figure 4, "address selection");

the pointer is one of a plurality of said pointers (see column 6, lines 27-49); and

each said pointer contains the address of a respective said contiguous portion of the

emulated memory (see column 6, lines 27-49); and

one said identifier corresponding to the respective said contiguous portion of the

emulated memory (see figure 4).

10.   Regarding claim 3 (24, 28, and 34), See teaches:

The method as defined in Claim 1, wherein the permitted access further comprises:

when the permitted access is not a read or a write operation, identically changing the

identifier in both of the corresponding pointer to contiguous portion of emulated

memory and the corresponding table entry (see Abstract).

11.   Regarding claim 4 (12, 20, 25, 31, and 36), Morrison teaches:

The method as defined in Claim 1, wherein the client is *selected from the group consisting*

of (emphasis added):

a personal computer (PC);

a workstation;

a Server;

a set top box;

a video game console;

a Personal Digital Assistant (PDA);

a cellular telephone;

a handheld computing device; and

a computing device having less memory and/or computing resources than that of

another computing device executing an application that emulates the operation of the

client (the Morrison device necessarily would require a computing device that had less

memory than the device that was emulating it, in order to accomplish emulation).

12.   Regarding claim 5 (13 and 21), Morrison teaches:

A computer-readable medium comprising instructions that, when executed by a

computer, performs the method of Claim 1 (a computer-readable medium would

necessarily be needed in order to perform the functions of the Morrison device).

13.   Regarding claim 6 (14, 22, and 32), Morrison and See teach:

A method comprising:

making a call to a memory manager for an emulated memory access operation to an

allocated contiguous portion of emulated memory, wherein a generation count has been

assigned to:

a plurality of table entries corresponding to a respective plurality of said allocated

contiguous portions of emulated memory, and

a plurality of pointers each containing an address to a respective said allocated

contiguous portion of emulated memory (see Morrison, columns 3 and 4);

comparing the generation count:

in the pointer containing the address to the allocated contiguous portion of emulated

memory (see Morrison, column 5, lines 54-62; column 6, lines 27-40); and

in the table entry corresponding to the allocated contiguous portion of emulated

memory (see Morrison, column 5, lines 54-62; column 6, lines 27-40);

if the respective said generation counts in the comparison do not match, then

outputting a diagnostic (see Morrison, figure 7; returning an error would necessarily

require performing a diagnostic); and

if the respective said generation counts in the comparison match, removing the

generation count from the pointer specified by the memory manager for the emulated

memory access operation during the performing of the emulated memory access

operation for with the memory manager was called (see See, column 9, lines 20-30).

14.   Regarding claim 7 (and 15), Morrison teaches:

The method as defined in Claim 6, further comprising:

performing the emulated memory access operation for which the memory manager was

called when there is a match of the respective said generation counts (see column 6,

lines 27-40); and

preventing the performance of the emulated memory access operation for which the

memory manager was called when the respective said generation counts of the

comparison do not match (see column 5, lines 54-62).

15.   Regarding claim 8 (and 16), Morrison teaches:

The method as defined in Claim 7, further comprising, when there is a match and the

emulated memory access operation is not a read or a write operation, incrementing the

generation count in both:

the pointer containing the address to the allocated contiguous portion of emulated

memory (see column 6, lines 27-40); and

the table entry corresponding to the allocated contiguous portion of emulated memory

(see figure 6).

16.   Regarding claim 10 (18 and 23), Morrison teaches:

The method as defined in Claim 6, wherein the emulated memory access operation *is*

selected from the group consisting of (emphasis added):

a read operation;

a write operation;

a reallocation operation; and

an operation to free one or more of said allocated contiguous portions of emulated

memory (see column 1).

17.   Regarding claim 11 (and 19), Morrison teaches:

The method as defined in Claim 6, further comprising, prior to the making of the call:

making a call to the memory manager for to allocate a contiguous portion of emulated

memory (see column 4, lines 7-17);

receiving one said pointer from the memory manager that contains the address of the

allocated contiguous portion of emulated memory (see column 6, lines 27-49);

performing the allocation of the contiguous portion of emulated memory; and inserting

the generation count (see column 3, lines 17-26):

in the:

the pointer containing the address to the one said allocated contiguous portion of

emulated memory (see column 5, lines 54-62); and

the plurality of table entries corresponding to the one said allocated contiguous portion

of emulated memory (see column 6, lines 27-40).

18.   Regarding claim 29, See teaches:

The first software program as defined in Claim 27, wherein the instructions further comprise removing the identifier from each said pointer prior to its use by the second software program (see Abstract).

19.   Regarding claim 30, See teaches

The first software program as defined in Claim 27, wherein the instructions further comprise use of the table entries and identifiers with the first software program but not by the second software program (see column 3).

20.   Regarding claim 35, Morrison and See teach:

The computer-readable medium as defined in Claim 34, further comprising:

means, prior to an allocation of the previously allocated contiguous portion of emulated memory, for making a call to a memory manager for an allocation of the previously allocated contiguous portion of emulated memory (see rejection of claim 6);

means for receiving the pointer from the memory manager that contains the address to the previously allocated contiguous portion of emulated memory (see rejection of claim 11);

means for performing the allocation of the previously allocated contiguous portion of emulated memory (see rejection of claim 11);

means for inserting the generation count in the table entry(see See, Abstract); and

means for copying the generation count from the table entry to the pointer (see See, column 3).

Response to Arguments

21.   Applicant's arguments filed November 11, 2006 have been fully considered but

they are not persuasive.

22.   Applicant argues that claims 1-5 are statutory under 35 U.S.C. § 101. With

regards to claim 1, simply emulating a client, and permitting access to memory is not

sufficient to be considered statutory subject matter, as there is no tangible result. An

output or similar consequence must be explicitly stated. Accessing a portion of memory

does not constitute a real world application of the result of emulating an operation of a

client (an abstract idea). Rejection maintained.

23.   Applicant argues that claims 1-36 are patentable over Morrison and See.

24.   Regarding claim 1, Applicant claims that neither Morrison nor See discloses

removing the identifier "from the corresponding pointer to permit the access to the

contiguous portion of the emulated memory". However, as See discloses "Meanwhile,

the next pointer filed of the parameter entry that stores the then most recent version of

parameter prior to the newer value is written to store the address of the parameter entry

that stores the newer value of the parameter" (see column 9, lines 20-28). Inherently,

rewriting the pointer field would necessarily require the removal of the original

identifier. Next: "This ensures that the latest version of the parameter stored can be

accessed through the net pointer link" (see column 9, lines 29-30). Thus, access is being

permitted to the memory through use of the pointer. Similarly, the amendments of

claims 6, 14, 22, 26, and 32 read on the concept of the amendment of claim 1. Rejections

maintained.

Conclusion

25.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of

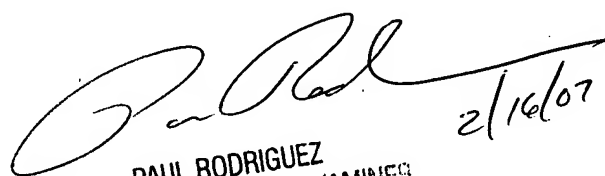time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and

any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date

of the advisory action. In no event, however, will the statutory period for reply expire

later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Nithya Janakiraman whose telephone number is 571-

270-1003. The examiner can normally be reached on Monday-Thursday, 8:00am-

5:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Paul Rodriguez can be reached on (571)272-3753. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NJ

2/16/07

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